

April 2, 2003

Gary E. Gray, Resident Agent  
West Ridge Resources, Inc.  
P.O. Box 1077  
Price, Utah 84501

Re: Penta Creek Fee Lease, West Ridge Resources, Inc, West Ridge Mine, C/007/041 –  
IB03B, Outgoing File

Dear Mr. Gray:

The above-referenced permit change has been reviewed. A copy of the Technical Analysis is enclosed. The application fulfills the technical requirements of the State regulations and is approved contingent upon the following being provided: 1) clean copies of text; and 2) all submitted maps need to be stamped, signed, and dated by a licensed Professional Engineer (P.E.). In order for us to issue the revised permit, please submit the required information by May 1, 2003.

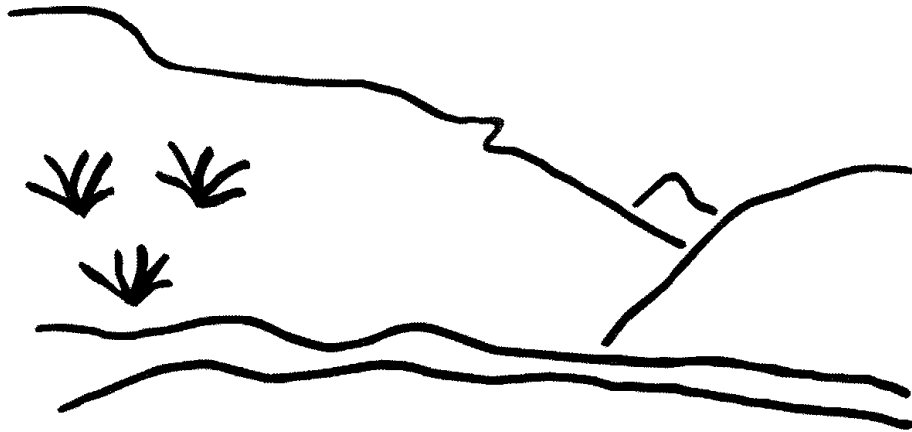
If you have any questions, please call me at (801) 538-5325 or Gregg Galecki at (801) 538-5260.

Sincerely,

Daron R. Haddock  
Permit Supervisor

an  
Enclosure  
cc: Price Field Office  
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# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

West Ridge Mine  
Penta Creek Fee Lease  
C/007/041 – IB03B  
Technical Analysis  
April 1, 2003



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## TECHNICAL ANALYSIS

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# TECHNICAL ANALYSIS

The Division ensures compliance with the Surface Mining Control and Reclamation Act of 1977 (SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the Operator must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.



## INTRODUCTION

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# INTRODUCTION

On February 7, 2003, the Utah Division of Oil, Gas, & Mining (Division) received an application from West Ridge Resources, Inc. (Operator) to amend their current Mine and Reclamation Plan (MRP) to increase the size of the permit area by 74.92-acres. The existing permit area for the West Ridge Mine contains 4307.63 acres. The addition of the current Penta Creek Fee Lease area containing 74.92 acres would bring the total permit area for the West Ridge Mine to 4382.55 acres; a 2 percent increase in total size. The current Penta Creek Fee Lease is located in the NW1/4 of the SW1/4 and SW1/4 of the NW1/4 (Lots #2 and #3) of section 18 in Township 14 South, Range 14 East; approximately four (4) miles north of the town of Sunnyside, Utah.

The Penta Creek Fee Lease is being added to the permit area to expand the longwalls thereby increasing coal recovery. The addition of the Penta Creek Fee Lease area will not increase the existing disturbed area. The existing Surface facilities will be used to access the underground reserves associated with this lease.

The proposed addition to the current mine plan is considered an Incidental Boundary Change (IBC). The amendment is considered an IBC because 1) it does not increase the size of the surface or subsurface disturbed area by more than 15 percent; 2) it does not engage in operations outside the Cumulative Hydrologic Impact Area (CHIA); and 3) it does not engage in operations in hydrologic basins other than those authorized in the currently approved permit.

The following review addresses only the portions of the regulations germane to the proposed amendment. The area is located on the periphery of the permit area, is beneath in excess of 2000-ft of cover of West Ridge with only one (1) small spring in the area. No text changes have been included in the amendment within the geologic and hydrologic sections. Only minor text changes exist in Chapters 1 and 5 of the MRP. Map modifications primarily include only an extension of the permit boundary to include the proposed 74.92-acre addition. The information provided adequately addresses the minimum requirements of the regulations. Approval of the amendment is recommended.





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## GENERAL CONTENTS

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# GENERAL CONTENTS

## IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

### Analysis:

Pages 1-8 and 1-9 have been revised and submitted with this permit amendment. The revisions on both 1-8 and 1-9 list a new surface owner, Dave Hinkins.

### Findings

Information provided adequately addresses the minimum requirements of the General Contents – Identification of Interests section of the regulations.

## RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

### Analysis:

The right of entry information on page 1-11 has been updated to include the Penta Creek Fee Lease area of 74.92 acres. The revised text indicates that the agreement with Penta Creek is located in Appendix 1-14. A 'Memorandum of Underground Coal Lease' was added to Appendix 1-14 during the week of March 24-28, 2003. The document gives the legal right to enter the Incidental Boundary Change area and extract the coal reserves.

Table 1-3, page 1-13a, and Table 1-4, page 1-13c, have been updated to indicate the acreage and legal description associated with the Penta Creek Fee Lease area.

### Findings:

Information was provided that adequately address the minimum requirements of the General Contents – Right of Entry section of the regulations.

## **PERMIT TERM**

Regulatory References: 30 CFR 778.17; R645-301-116.

### **Analysis:**

Information pertaining to the total acres within the permit area under the permit term has been updated on page 1-14.

### **Findings:**

Information provided adequately addresses the minimum requirements of the General Contents – Permit Term section of the regulations.

## **MAPS AND PLANS**

Regulatory Reference: 30 CFR 777.14; R645-301-140.

### **Analysis:**

All maps germane to the addition of the current Penta Creek 74.92-acre fee lease into the currently approved MRP have been included in the amendment.

### **Findings:**

The information provided adequately addresses the requirements of the General Contents – Maps and Plans section of the regulations.

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## ENVIRONMENTAL RESOURCE INFORMATION

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# ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

## PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

### Analysis:

The new permit area is shown on several maps including Map 5-3 Sub-surface Ownership Map. The permitted area before the addition of the Penta Creek fee lease was 4,297.01. The Penta Creek fee lease is for 74.92 acres, which brings the total permitted area to 4,382.55 acres. The information is adequate to determine the additional areas included in the permit boundary.

### Findings:

The information provided is adequate to meet the minimum requirements of the Environmental Resources Information – Permit Area section of the regulations.

## VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

### Analysis:

Vegetation information is in Chapter 3, Section R645-301-321, Appendices 3-1, 3-5 and 3-8, and Maps 3-1, 3-2, and 3-3 of the currently approved MRP. Map 3-1 has been modified to include the 74.92-acre Penta Creek Fee lease. A study of nonvascular plants in the Douglas fir/Rocky Mountain juniper area is in Appendix 3-8. Appendix 3-1 has a detailed vegetation study of the mine site, and a study of the potential topsoil borrow area is in Appendix 3-5. With the methods used for the vegetation studies, percentages of vegetative cover from both understory and overstory combined with litter, bare ground, and rock add to 100%. Plant communities in the fee lease acquisition include sagebrush/grassland, aspen and pinyon/juniper.

In addition to the detailed studies of the disturbed areas, the mining and reclamation plan includes a map showing vegetation communities in the entire permit area. There will be no

## **ENVIRONMENTAL RESOURCE INFORMATION**

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surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Also, the Permittee has committed to take aerial infrared photographs every five years to monitor the effects of underground mining on vegetation.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Environmental Resources – Vegetation Resources Information section of the regulations.

## **FISH AND WILDLIFE RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 784.21; R645-301-322.

### **Analysis:**

Appendix 3-3 has a list of wildlife species potentially occurring in the fee area. Maps 3-4A, B, C, and D show information about raptor nests and deer, elk and antelope habitat. These maps have been modified with this amendment to include the 74.92-acre fee lease addition.

There are no golden eagle, falcon, or buteo nests in or near the lease addition. Six eagle nests have been found in C Canyon, and there are several other raptor nests in and near the permit area. A peregrine falcon nesting territory has been found near the Centennial Project area, but it is more than ten miles from the permit area.

The lease area includes yearlong high value elk and deer critical summer habitat. No pronghorn habitat is shown as being in the permit area.

The mining and reclamation plan says the permit area is in the southern part of Game Unit 27B and that this unit occupies the eastern half of Carbon County. The Division of Wildlife Resources commented that it is in the Anthro/Range Creek herd unit #11.

About 360 species potentially exist in and near the permit area, and the permit includes relatively general information about several of these species. The only wildlife information gathered for the purpose of the permit is the raptor nesting information.

The site does not contain habitat for species that have large, concentrated populations. Therefore, even if there are bats in the area, which is unlikely, they would be very difficult to find and only a few would potentially be lost. For these reasons, information about bats is not required.

## ENVIRONMENTAL RESOURCE INFORMATION

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The area contains habitat for passerine birds, but there are no sensitive species known to nest in the lease area. Even so, nearly all birds are protected.

There are several perennial springs within the lease area. The value for wildlife is somewhat restricted, and there are no fish that are likely to be affected. While snakes inhabit the area, there is no known critical habitat.

There will be no surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Impacts to wildlife should be negligible.

### Findings:

The information provided adequately addresses the requirements of the Fish and Wildlife Resource Information section of the regulations.

## SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

### Analysis:

No surface disturbance is anticipated with the current amendment. The soils resource information in the currently approved MRP is adequate and needs no modifications.

### Findings:

Information currently available in the MRP adequately addresses the minimum requirements of the Environmental Resources Information section of the regulations.

## LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

### Analysis:

No surface disturbance is anticipated with the current amendment. The land-use resource information in the currently approved MRP is adequate and needs no modifications, with the exception of updating Map 4-1 (Land-use map) to include the 74.92-acre fee lease; which has been done.

**Findings:**

Information provided adequately addresses the minimum requirements of the Land-use Resources Information section of the regulations.

**PRIME FARMLAND**

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

**Analysis:**

The 74.92-acre Penta Creek Fee lease area is located on top of West Ridge at an elevation ranging from 8200-ft to 8900-ft. in an aspen environment. No prime farmland exists within the 74.92-acre parcel. No additional information is required in the current submittal.

**Findings:**

Information provided in the currently approved MRP adequately addresses the minimum requirements of the Environmental Resources Information – Prime Farmland section of the regulations.

**GEOLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

**Analysis:**

Maps 6-1, 6-2, and 6-3 (the Regional geology, Coal seam structure, and Lower Sunnyside coal seam isopach maps, respectively) have been modified to include the proposed 74.92-acre addition by extending the permit boundary. The proposed addition is located in the southeast portion of the current permit area and is contiguous Federal leases SL-068754 and UTU-78562.

The initial mine plan had always anticipated mine development in the proposed 74.92-acre extension however, did not acquire the fee land until recently. The only modification to the maps was to include the 74.92-acre addition in the permit boundary.

**Findings:**

Information provided adequately addresses the minimum requirements of the Geologic Resources Information section of the regulations.

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## ENVIRONMENTAL RESOURCE INFORMATION

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### HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

#### **Analysis:**

Information within the currently approved plan adequately addresses the addition of the proposed 74.92-acre IBC, with the exception of modifying the permit boundary on all associated maps, which is included in this amendment.

#### **Findings:**

Information provided adequately addresses the minimum requirement of the Hydrologic Resource Information section of the regulations.

### MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

#### **Analysis:**

##### **Affected Area Boundary Maps**

The proposed addition of the 74.92-acre IBC required a modification to all maps within the currently approved MRP that illustrated the permit boundary. Maps that required a boundary modification include: Map 1-1, Mine Location; 2-1, Regional Soil; 3-1, General Vegetation Communities; Wildlife 3-4a through 3-4d; 4-1, Existing Land-use; 4-2, Archeology; 5-2, Surface Ownership; 5-3, Subsurface Ownership; 5-4A and 4B Mining Projections (Extended Reserves); 5-7, Subsidence Mitigation; 6-1 through 6-3 Geology; 7-3, Water Rights; 7-5, Seep/Spring Survey; 7-6 Hydrologic Monitoring (Historical Monitoring Locations); and 7-7 Operational Monitoring Location maps.

##### **Coal Resource and Geologic Information Maps**

The Coal Resource and Geologic information maps required only a modification of the permit boundary. The 74.92-acre IBC is contingent with two currently permitted federal leases, and the original mine plan indicated the IBC area would eventually be acquired.

##### **Existing Structures and Facilities Maps**

No changes to existing structures or facilities are proposed with the IBC.



### **Existing Surface Configuration Maps**

Map 5-3 shows the existing surface configuration. The contours on Map 5-3 appear to be from a USGS topographic map. The Division usually considers such maps adequate for showing surface configurations on areas where underground mining will occur but the surface will not be disturbed.

### **Mine Workings Maps**

No modifications to the Mine Workings map were necessary, with the exception of the new permit boundary. The original mine plan indicated the IBC area would be acquired. The existing mine workings within the Penta Creek fee area are shown on Map 5-4B.

### **Permit Area Boundary Maps**

The permit boundary is shown on several maps including Map 5-4B. The information on the map is adequately identifies the permit boundaries.

### **Surface and Subsurface Manmade Features Maps**

There are no surface or subsurface manmade features in the Penta Creek fee area that need to be shown.

### **Surface and Subsurface Ownership Maps**

The surface and subsurface ownership is show on maps 5-2 and 5-3, respectively.

### **Vegetation Reference Area Maps**

The three reference areas are shown on Map 3-1, they include Pinyon/Juniper, Douglas Fir/Maple, and Douglas Fir/Rocky Mtn. Maple. Map 3-1 was modified to include the 74.92-acre fee lease area.

No other map changes were required with the addition of the IBC.

### **Findings:**

Information provided adequately addresses the minimum requirements of the Maps, Plans, and Cross Sections of Environmental Resources Information section of the regulations.

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## OPERATION PLAN

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# OPERATION PLAN

## MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

### Analysis:

The amendment is not changing the basic mine plan. The Penta Creek fee lease will enable the longwall panels to be extended to maximize coal recovery.

### Findings:

The information provided adequately addresses the minimum requirements of the Operation Plan – Mining Operations and Facilities section of the regulations.

## EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

### Analysis:

No existing structures will be associated with the addition of the Penta Creek lease.

### Findings:

The information provided in the amendment adequately addresses the minimum requirements of the Operation Plan - Existing Structures section of the regulations.

## RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

### Analysis:

No public roads are in the Penta Creek lease area.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Relocation or Use of Public Roads Section of the regulations.

**COAL RECOVERY**

Regulatory Reference: 30 CFR 817.59; R645-301-522.

**Analysis:**

The Penta Creek lease will enable the Operator to expand the longwall panels, therefore increasing the coal recovery.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Coal Recovery section of the regulations.

**SUBSIDENCE CONTROL PLAN**

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

**Analysis:**

**Subsidence Control Plan**

The Operator will only be required to modify the subsidence-monitoring program to include the Penta Creek fee lease. The areas where subsidence is anticipated are shown on Map 5-7, Subsidence Map. All subsidence will be within the permit boundary.

**Certification Requirements**

Several maps have been modified with this permit amendment. The change to the maps indicates the addition to the permit area associated with the incidental boundary change incorporating the Penta Creek Fee Lease area of 74.92 acres. The maps contained in this application have not been P.E. certified. This certification is a requirement to verify the accuracy of the changes made to each map.

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## OPERATION PLAN

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### **Findings:**

The submitted maps need to be stamped, signed and dated by a certified P.E. to verify the accuracy of the changes made to each map. The applicant intends to submit certified maps upon being informed that the application meets all other technical requirements.

## **ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

### **Analysis:**

There will be no change to the roads or other transportation facilities.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Road Systems and Other Transportation Facilities section of the regulations.

## **SPOIL AND WASTE MATERIALS**

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

### **Analysis:**

There will be no change to the spoil and waste materials handling plan.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan - Spoil and Waste Materials section of the regulations.

## **SUPPORT FACILITIES AND UTILITY INSTALLATIONS**

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

**Analysis:**

No new support facilities or utilities will be installed on the surface as a result of the Penta Creek fee lease. No modification to the MRP is necessary

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Support Facilities and Utility Installation section of the regulations.

## **USE OF EXPLOSIVES**

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

**Analysis:**

No surface blasting will be done as a result of the Penta Creek fee lease.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Use of Explosives section of the regulations.

## **FISH AND WILDLIFE INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

**Analysis:**

### **Protection and Enhancement Plan**

Should mining disrupt a seep or spring that is utilized by cattle or wildlife, the Operator commits to replace the quantity of water depleted from that source at a similar location unless the seep is restored naturally in a nearby area.

Areas within the permit area containing potential raptor nesting habitat will be surveyed in the field within one year of any mining activity that could result in subsidence. Should any nests be found, the Operator would consult with the Division, the Division of Wildlife Resources, and the Fish and Wildlife Service. No surface disturbance or mining activities are planned for the proposed lease area.

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## OPERATION PLAN

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The Operator has committed to conduct wildlife education session for their employees and any contractor employees. Conflicts with wildlife can be avoided through knowing what actions may be detrimental or beneficial.

### **Endangered and Threatened Species**

The mining and reclamation plan contains a letter from the Fish and Wildlife Service identifying eight listed and candidate threatened or endangered species that could occur in Carbon County. It also quotes a letter from the Fish and Wildlife Service written for the West Ridge Project Environmental Analysis. According to the mining and reclamation plan, this letter says no federally listed species are known to occur in the project area.

The only species likely to occur in the permit area are the bald eagle and peregrine falcon. There are only four known bald eagle nests in Utah, and the closest is near Castle Dale. Most bald eagles in Utah spend the winter but do not breed here.

As discussed above, a peregrine falcon nesting territory has been found in the Book Cliffs more than ten miles from the mine site, but no active nests were found within ½ mile of the proposed lease area during the 2002 raptor survey.

Although there are no fish in the permit area, the mine has a potential, through water depletion, of adversely affecting threatened or endangered fish of the Upper Colorado River. This issue is addressed as part of the fish and wildlife protection plan.

No surface disturbance or mining activities are planned for the proposed lease area.

### **Bald and Golden Eagles**

The only species likely to occur in the permit area are the bald eagle and peregrine falcon. There are only four known bald eagle nests in Utah, and the closest is near Castle Dale. Most bald eagles in Utah spend the winter but do not breed here.

There are six golden eagle nests in C Canyon near the mine. Five are in the right fork.

In the left fork of the canyon is a nest that was inactive in 1981, 1997 and 1998, and much of the mine site is within one-half mile of this nest. The mining and reclamation plan states that this nest would be considered abandoned under Bureau of Land Management guidelines and that no take permit is necessary. In a letter dated October 15, 1998, the Division of Wildlife Resources concurred with this assessment.

As mining continues, the Operator will need to continue to monitor the nests in the area and may need to obtain take permits. It may also be necessary to preclude birds from nesting in

## **OPERATION PLAN**

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particular places because of the potential of losing the nests through cliff spalling or other results of subsidence. At other mines, chain link fencing material has been put over nests to keep birds away.

The Division requires enhancement or avoidance for areas of critical habitat, but it is understood the Bureau of Land Management requires mitigation for areas of high priority habitat as well. The lease area is in high priority habitat. However no surface disturbance or mining activities are planned for the proposed lease area.

### **Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

There are no wetlands within the proposed lease area. In addition there are no surface disturbance or mining activities are planned for the lease area.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Fish and Wildlife section of the regulations.

## **VEGETATION**

Regulatory Reference: R645-301-330, -301-331, -301-332.

### **Analysis:**

Vegetation information is in Chapter 3, Section R645-301-321, Appendices 3-1, 3-5 and 3-8, and Maps 3-1, 3-2, and 3-3. A study of nonvascular plants in the Douglas fir/Rocky Mountain juniper area is in Appendix 3-8. Appendix 3-1 has a detailed vegetation study of the mine site, and a study of the potential topsoil borrow area is in Appendix 3-5. With the methods used for the vegetation studies, percentages of vegetative cover from both understory and overstory combined with litter, bare ground, and rock add to 100%. Plant communities in the fee lease acquisition include sagebrush/grassland, aspen and pinyon/juniper.

In addition to the detailed studies of the disturbed areas, the mining and reclamation plan includes a map showing vegetation communities in the entire permit area. There will be no surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Also, the Operator has committed to take aerial infrared photographs every five years to monitor the effects of underground mining on vegetation.

## **OPERATION PLAN**

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### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Vegetation section of the regulations.

## **HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

### **Analysis:**

#### **General**

The 74.92-acre IBC has little to no effect on the submittal of required hydrologic information. The original mine plan anticipated to conduct mining in the area and addressed any hydrologic concerns in the currently approved plan.

#### **Surface water Monitoring**

No surface-water monitoring sites are affected by the IBC, and no additional sites are required through the Division review.

#### **Groundwater Monitoring**

Groundwater monitoring site Spring WR-1 is located immediately southeast of the IBC area. The Division database indicates Spring WR-1 has been monitored since June 1999. Flows range from 0.1 gpm (11/02) to 3.8 gpm (8/01) and average 1.97 gpm. Additional monitoring information from 1986 through 1992 indicated average flow at 1.82 gpm, with the spring being dry once (08/92). Water Right 91 4948 is associated with the spring and it is owned by Sunnyside Coal Company (filed in 1993). The water right lists the flow as .009 cfs (4 gpm) and its use is listed as stockwatering. WR-1 is located along strike, and the source area for the spring is up-dip of the mining activity; so affects to the spring are unlikely.

No other hydrologic regulations are affected by the proposed IBC, and are not addressed in this technical analysis.



**Findings:**

Information provided adequately addresses the minimum requirements of the Operation Plan – Hydrologic Information section of the regulations.

**MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

**Analysis:**

All the maps within the currently approved MRP illustrating the permit boundary needed to be modified to include the 74.92-acre IBC. The majority of maps illustrating operations activities needed no modification because mining activities within the IBC area were included in the original mine plan. No modifications to the 'Mining Facilities Maps', 'Mine Workings Maps' or 'Monitoring and Sampling Location Maps' were necessary due to the addition of the 74.92-acre IBC.

**Analysis:**

**Affected Area Maps**

The Operator did not include a map specifically labeled affected area boundaries. However, the Operator did show on Map 5-4B, Mining Projections (Extended Reserves), which show those areas where additional permits may be sought. The information on Map 5-4B is adequate for the Division to determine where future mining may occur and what additional permits may be needed.

**Mining Facilities Maps**

No new mine facilities will be constructed because of the Penta Creek fee lease.

**Mine Workings Maps**

The revised mine workings are shown on Map 5-7.

**Certification Requirements**

A majority of the maps have been stamped by Dan Guy, a registered professional engineer, but were not signed and dated.

## **OPERATION PLAN**

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### **Findings:**

Information provided adequately addresses the minimum requirements of the Operation Plan – Maps, Plans, and Cross Sections of Mining Operations section of the regulations.



## RECLAMATION PLAN

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# RECLAMATION PLAN

## GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

### Analysis:

The 74.92-acre IBC will require no effective change to the Reclamation Plan. The post-mining land uses will remain the same, and the 'Maps, Plans, and Cross Sections of Reclamation Operations' will remain unchanged. The only exception is the 'Affected Boundary Area Map' that will illustrate the IBC. There is no associated new surface disturbance, and any reclamation necessary due to subsidence is already covered in the current plan.

### Findings:

Information provided adequately addresses the minimum requirements of the Reclamation Plan – General Requirements section of the regulations.

## POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### Analysis:

No changes to the post-mining land uses are proposed as part of this amendment.

### Findings:

Information available in the currently approved MRP adequately address the minimum requirements of the Reclamation Plan – Post-mining Land Uses section of the regulations.

## **PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES**

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

### **Analysis:**

Should mining disrupt a seep or spring that was utilized by cattle or wildlife, the Operator would replace the quantity of water depleted from that source at a similar location unless the seep is restored naturally in a nearby area.

Areas within the permit area containing potential raptor nesting habitat will be surveyed in the field within one year of any mining activity that could result in subsidence. Should any nests be found, the Operator would consult with the Division, the Division of Wildlife Resources, and the Fish and Wildlife Service. No surface disturbance or mining activities are planned for the proposed lease area.

The Operator has committed to conduct wildlife education session for its and its contractors' employees. The lease area is in high priority habitat for deer and elk. However as no surface disturbance or mining activities are planned for the proposed lease area no reclamation activities are planned either.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Protection of Fish, Wildlife, and Related Environmental Values section of the regulations.

## **REVEGETATION**

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

### **Analysis:**

#### **Revegetation: General Requirements**

The revegetation plan is primarily in Section R645-301-341 of the regulations. Three revegetation scenarios are shown in the MRP, one for areas where topsoil would be salvaged and redistributed, one for areas with topsoil that is covered with a geotextile, and one for rock/rubbleland areas. In the rock/rubbleland areas, there are a few areas where topsoil would be salvaged and later replaced. There is no disturbance planned for the fee lease parcel. Therefore

## **RECLAMATION PLAN**

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the described scenarios only apply to those areas scheduled for reclamation. In the unlikely event the permittee should disturb the fee lease area at some point in time the following scenario would apply:

The information in Appendix 5-5 and Map 5-12 indicates that revegetation will occur after grading and surface preparation operations are complete.

The seed mixes to be used in final reclamation are in Tables 3-2A, B, C, and D.

### **Revegetation: Mulching and Other Soil Stabilizing Practices**

This section is described below under Stabilization of Surface areas.

### **Revegetation: Standards For Success**

Table 3-4 of the mining and reclamation plan is a revegetation monitoring schedule. Qualitative observations would be done every year after seeding, but quantitative observations would be done only in the years specified. The monitoring schedule is considered adequate.

### **Field Trials**

Section 341.300 has a brief description of the plan for test plots, but a more detailed description is in Section 231.300. Section 341.300 indicates the seed mixture for the Douglas fir/maple community should be used on the test plots, and this implies it would also be used for the test plots.

Table 3-4 shows a monitoring schedule that includes quantitative observations over the five-year period. Using cover measurements, it will be possible to compare vegetation diversity in the different areas. This schedule is considered adequate.

### **Wildlife Habitat**

Appendix 3-6 of the currently approved MRP commits the Operator to additional wildlife enhancement measures in the permit mining and reclamation plan package.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Revegetation section of the regulations.

## **STABILIZATION OF SURFACE AREAS**

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

### **Analysis:**

The plan for interim revegetation is to seed the mixture shown in Table 3-3 in late fall or early spring on topsoil stockpiles and regraded slopes. Among the areas that would be seeded are the outslopes of the sediment pond, fill slopes, and side slopes. The proposed lease area will not be disturbed. Therefore no seeding is anticipated.

Alfalfa is the only introduced species in this seed mixture, and it is not expected to spread inordinately or to dominate the other vegetation. The species in this mixture should provide good erosion protection.

In areas where the interim seed mixture will be used, the soil surface will first be roughened or gouged. Fertilizer would be applied if necessary and the area seeded in late fall or early spring. The interim seed mixture will be hand broadcast and the areas raked to cover the seed. Straw mulch would then be spread with a mulch and tackifier applied over the straw in larger areas such as the topsoil stockpile.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Stabilization of Surface Areas section of the regulations.

## **MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

### **Analysis:**

#### **Affected Area Boundary Maps**

The Operator did not include a map specifically labeled 'Affected Area Boundaries'. However Map 5-4B - Mining Projections (Extended Reserves), shows those areas where additional permits may be sought. The information on Map 5-4B is adequate for the Division to determine where future mining may occur and what additional permits may be needed.

## **RECLAMATION PLAN**

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### **Bonded Area Map**

The Operator will not change the bonded area (disturbed area). Therefore, no new bonded area maps are needed.

### **Reclamation Backfilling And Grading Maps**

No change to the backfilling and grading plans will be made as a result of the Penta Creek fee lease.

### **Reclamation Facilities Maps**

No modification to the Reclamation Facilities Map is necessary resulting from the Penta Creek fee lease.

### **Final Surface Configuration Maps**

There will be no change to the disturbed surface area because of the Penta Creek fee lease. The only change the final surface area because of the Penta Creek fee lease would be caused by subsidence. The topographic maps have contours intervals of 50 feet. The amount of subsidence that will occur would not be seen on the existing topographic maps.

### **Reclamation Surface And Subsurface Manmade Features Maps**

No reclamation surface or subsurface manmade features will be associated with the Penta Creek fee lease.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Maps, Plans, and Cross Sections of Reclamation Operations section of the regulations.

## **BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.



**Analysis:**

**Determination of Bond Amount**

The Division has determined that no additional reclamation costs will occur because of the addition of the Penta Creek fee lease.

**Findings:**

The information provided in the amendment is considered adequate to meet the minimum requirements of this section of the regulations.

## **CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)**

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

### **Analysis:**

The addition of the 74.92-acre IBC will have little or no impact to the Cumulative Hydrologic regime. Actual mining activity will only occur in the approximate northern 1/3 of the 74.92-acres, and the activity will occur beneath 2,000-ft of cover, which will further reduce any potential for impacts. The only potential for local impacts is to Spring WR-1 with associated Water Right 91-91-4948 that claims right to approximately 4 gpm of flow. No impacts to the spring are anticipated.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Cumulative Hydrologic Impact Assessment section of the regulations.